

US EPA RECORDS CENTER REGION 5



466397

Monthly Oversight Report 49
ACS NPL Site
Griffith, Indiana
January 1 - February 4, 2005



BLACK & VEATCH

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Black & Veatch Special Projects Corp.

USEPA/RAC VII
American Chemical Services RAO (057-ROBF-05J7)

BVSPC Project 46526
BVSPC File C.3
February 15, 2005

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report
No. 49 for January 2005

Dear Mr. Adler:

Enclosed is the Monthly Oversight Summary Report No. 49 for January 2005 for the American Chemical Services Superfund Site in Griffith, Indiana.

If you have any questions, please call (312-683-7856) or email (campbelllm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.

Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 49
ACS Superfund Site WA57, 46526.238

Reporting Period: Month of January (January 1 - February 4, 2005)

BVSPC O/S Dates: January 13 and February 4, 2005

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	1	Respondent's General Contractor
US Environmental Protection Agency	1	Federal Regulatory Agency
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Austgen	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza temporarily shut down the Still Bottoms Pond Area air sparge system because odors were detected in the American Chemical Service break room.
- Montgomery Watson Harza removed the failed biotank clarifier rake gearbox and returned it to the manufacturer for repair.
- Microbac (formerly Simalabs) collected samples from the groundwater treatment plant for routine process monitoring.
- Montgomery Watson Harza held construction coordination meeting at the site on January 13, 2005, and an operation, maintenance, and monitoring meeting at its Chicago office on February 4, 2005.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm. MWH reported that water was pumped to the GWTP from all available sources. Microbac (formerly Simalabs) collected samples from the GWTP for routine process monitoring.

MWH reported that it had removed the failed gearbox that rotates the rake in the biotank clarifier and shipped it to the manufacture for repair. The GWTP continues to operate without the clarifier rake rotating.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2. MWH reported that thermox 1 shut down on January 12 for no apparent reason. It was restarted and has run well through the end of the reporting period. MWH reported that it has not pumped product from the ONCA SBPA ISVE wells for a few months. MWH will prepare a product removal pumping plan/schedule.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors at 1,200 cubic feet per minute (cfm) back to thermox 2, with minimal dilution air (valve is one stop from being fully closed). MWH reported that it was now pulling vapors from 22 ONCA SBPA ISVE wells, including 8 new wells activated on January 21. Limited to no flow has been observed in 6 of the original 14 activated wells. This system operated at approximately 1,140 cfm (with zero ambient air) during January, pumping vapors back to thermox 1.

MWH reported that on January 20, ACS employees reported odors in their break room located on the ONCA SBPA cap. MWH reported that it immediately shut down the ONCA air sparge system and used a photoionization detector (PID) to investigate odors in the break room; no VOCs were detected. ACS reported that the odors subsided shortly after deactivation of the air sparge system and were not present on January 25. MWH reported that it had restarted the air sparge system on January 25 using only three of the five ONCA SBPA air sparge points AS3, AS4, and AS6, located at distance from the break room. MWH and ACS will monitor the break room to check on the redevelopment of odors. MWH believes the odors may be migrating from beneath the SBPA final cover through the insulation between the break room foundation wall and the surrounding soil in the SBPA.

MWH reported that on January 28, the SBPA ISVE system was shut down for maintenance and that cracks were observed in the stainless steel housing on the SBPA blower. The cracks were welded, the housing reinstalled, and the blower restarted on January 28.

MWH reported that approximately half of the new ONCA SBPA fence stanchions had been filled with concrete. MWH plans to complete the remainder when the exterior temperature is above freezing so as not to inhibit the concrete curing.

MWH reported that it has received and evaluated the results of the groundwater sampling following the chemical oxidation injection in the off-site groundwater plume area and has prepared recommendations for the next injection event in March-April. MWH also plans to inject chem-ox chemicals beneath Colfax Avenue and has contacted the City of Griffith regarding procedures to sequentially close lanes of the roadway. MWH has contacted a traffic safety company to assist with traffic control during this operation.

MWH reported that it has prepared a plan to collect additional soil vapor samples from the subsurface near the house at 1002 Reder Road. MWH has provided information to the owner of this house regarding installation of a radon detector in the basement.

MWH reported that it is evaluating methods to baffle or otherwise minimize noise coming from the air compressors at the GWTP, in response to complaints from nearby residents.

MWH reported that it had resampled residential well PW-A on January 7, 2005, because DDT had been detected in the sample collected in September 2004. MWH reported that it had received the results of the resampled residential well PW-A and they were non-detect for DDT.

MWH reported that it has developed a plan to upgrade the SBPA ISVE system and provided a summary of the conceptual design of the proposed upgrades.

MWH reported that it would revise the ACS Health and Safety Plan to focus on operation and maintenance activities rather than construction activities.

MWH reported that it has received validated results of the lower aquifer groundwater sampling and is preparing a report summarizing the lower aquifer investigation results and presenting recommendations for additional investigation in late spring. MWH reported that it has received approval from the PRPs to extend the lower aquifer investigation northward to the property line and would submit a proposal for this work to the Agencies in March.

MWH proposed, and USEPA agreed, that future construction coordination meetings would be held on a monthly frequency and would focus on operation and maintenance issues. Weekly or biweekly meetings would be held during field activities such as the upcoming chem-ox injection event in March.

MWH reported that on January 13 it had worked at the ACS site for 2,770 days without a lost-time accident, and 527 days since the last OSHA reportable incident.

MWH held a construction coordination meeting at the site on January 13 and an operation, maintenance, and monitoring (OM&M) meeting at its Chicago office on February 4, 2005. Black & Veatch Special Projects Corp. (BVSPC) and USEPA attended this meeting.

Attached are BVSPC weekly reports No. 201 through 205, correspondence, log book notes, and photographs of the daily activities. BVSPC's crew conducted oversight of the major field activities on January 13. BVSPC's crew attended the construction coordination meeting on January 13 and the OM&M meeting on February 4.

Topics of Concern: None

Concern Resolution: None

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to monitor odors in the ACS break room.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.

- MWH to complete fencing of the SBPA final cover.
- MWH to collect additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- MWH to conduct second full-scale chemical oxidation injection application in March.
- MWH to conduct first-quarter groundwater sampling event in March.

Signature: Larry Campbell

Date: February 15, 2005

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Weekly Oversight Summary Report No. 201
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of January 3, 2005

BVSPC O/S Dates: Cancelled because of limited site activities.

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	1	Respondent's General Contractor
Austgen	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 25 gpm and that the reactivated sludge clarifier rake operated satisfactorily. MWH reported that water was pumped to the GWTP from all available sources.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors at 2,000 cubic feet per minute (cfm) back to thermox 2. MWH reported that it was now pulling vapors from 14¹ ONCA SBPA ISVE wells, although significant flow was observed in only eight of these activated wells. This system continues to operate at 1,000 cfm (with zero ambient air), pumping vapors back to thermox 1.

MWH reported that the air sparge systems continued to operate satisfactorily.

Topics of Concern: None.

¹Previous reports had incorrectly identified that vapors were being pulled from 12 SBPA ISVE wells. Actually, vapors have been pulled from 14 SBPA ISVE wells for a number of months.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue proving out the ONCA SBPA ISVE system wells.
- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.
- MWH to complete fencing of the SBPA final cover.
- MWH to collect additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- MWH to resample residential well PW-A.

Signature: Larry Campbell

Date: January 11, 2005

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Weekly Oversight Summary Report No. 202
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of January 10, 2005

BVSPC O/S Dates: January 13, 2005 (Mr. Campbell)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	1	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Austgen	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza conducted a construction coordination meeting at the site on January 13.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 25 gpm and that the reactivated sludge clarifier rake operated satisfactorily. MWH reported that water was pumped to the GWTP from all available sources.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2. MWH reported that thermox 1 shut down on January 12 for no apparent reason. It was restarted and has run well through the end of the reporting period.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors at 2,000 cubic feet per minute (cfm) back to thermox 2 with minimal dilution air (valve is one stop from being fully closed). MWH reported that it was now pulling vapors from 14¹ ONCA SBPA ISVE wells, although significant flow was observed in only eight of these activated wells.

¹Previous reports had incorrectly identified that vapors were being pulled from 12 SBPA ISVE wells. Actually, vapors have been pulled from 14 SBPA ISVE wells for a number of months.

This system continues to operate at 1,000 cfm (with zero ambient air), pumping vapors back to thermox 1.

MWH reported that the air sparge systems continued to operate satisfactorily.

MWH reported that approximately half of the new ONCA SBPA fence stanchions had been filled with concrete. MWH plans to complete the remainder when the exterior temperature is above freezing so as not to inhibit the concrete curing.

MWH reported that it has received and evaluated the results of the groundwater sampling following the chem-ox injection in the off-site groundwater plume area and has prepared recommendations for the next injection event in March-April. MWH plans to inject chem-ox beneath Colfax Avenue and has contacted the City of Griffith regarding procedures to sequentially close lanes of the roadway.

MWH reported that it has prepared a plan to collect additional soil vapor samples from the subsurface near the house at 1002 Reder Road. MWH has provided information to the owner of this house regarding installation of a radon detector in the basement.

MWH reported that it had resampled residential well PW-A on January 7, 2005, because DDT had been detected in the sample collected in September 2004.

MWH reported that it has received validated results of the lower aquifer groundwater sampling and is preparing a report summarizing the lower aquifer investigation results and presenting recommendations for additional investigation in late spring.

MWH proposed, and USEPA agreed, that future construction coordination meetings would be held on a monthly frequency and would focus on operation and maintenance issues. Weekly or biweekly meetings would be held during field activities such as the upcoming chem-ox injection event in March.

MWH reported that it had worked at the ACS site for 2,770 days without a lost-time accident, and 527 days since the last OSHA reportable incident.

MWH held a construction coordination meeting at the site on January 13, 2005. Black & Veatch Special Projects Corp. (BVSPC) attended this meeting.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.
- MWH to complete fencing of the SBPA final cover.

- MWH to collect additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.

Signature: Larry Campbell

Date: January 18, 2005

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR JANUARY 13, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, January 13, 2005

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site

ATTENDEES: Larry Campbell – BVSPC
Lee Orosz – MWH
Rob Adams – MWH (via telephone)
Kevin Adler – U.S. EPA (via telephone)
Amy Clorc – MWH (via telephone)
Chris Daly – MWH (via telephone)
Todd Lewis – MWH (via telephone)
Chad Smith – MWH (via telephone)
Pete Vagt – MWH (via telephone)

TOPICS

Health and Safety Summary

There have been no health and safety issues since the last meeting on December 23, 2004. Ausgen Electric was on site during the past three weeks performing routine maintenance and had no health and safety incidents.

Groundwater Treatment Plant (GWTP) Status

The GWTP is presently operating at approximately 25 gallons per minute (gpm). There has been no down time of the GWTP since the last meeting on December 23, 2004.

Off-Site Area/SBPA ISVE Systems

Thermal Oxidizer 1 (Therm-Ox 1) is currently treating vapors from the Still Bottoms Pond Area (SBPA). Therm-Ox 1 went down on January 12th without signaling an alarm. The unit was brought back online the same day without problem. MWH will continue to watch the unit and investigate the cause of the unit's failure. The SBPA ISVE system is currently operating with a vapor collection rate of approximately 17.5 pounds per hour (lb/hr). There are fourteen wells presently operating in the On-site area.

During the last ISVE O&M event on December 21, 2004 product level measurements were taken from SBPA wells SVE-53 and SVE-72. MWH plans to pump product from the wells before the next scheduled O&M event on January 24th to measure the recharge rate of the product in the wells.

Thermal Oxidizer 2 (Therm-Ox 2) is currently treating vapors from the Off-Site Area and aeration tank T-102 with a vapor collection rate of approximately 14.3 lb/hr. Twenty-eight wells

are currently operating in the Off-Site Area. MWH is evaluating the potential to increase vapor extraction by changing which wells are operating and/or increasing the number of active wells.

For clarification purposes, a list of active ISVE wells for the past five months has been attached to these minutes.

MWH is finalizing the response to comments for the ACS SBPA ISVE System Evaluation Memo and is planning to submit them to the Agencies in the coming weeks via email. A meeting with MWH and the Agencies to discuss concepts for SBPA ISVE system modifications is scheduled for February 4th at the MWH office in Chicago.

SBPA Final Cover

Work is approximately halfway complete on filling in the base plates for the SBPA fence posts. The remaining fence posts are scheduled to be filled next week if weather permits.

MWH anticipates submitting the SBPA Final Cover Construction Completion Report (CCR) in late January.

Lower Aquifer Investigation

MWH has received the validated analytical results from the Lower Aquifer Investigation. A report detailing the findings of this investigation and proposing an additional follow-up investigation is scheduled for submittal to the Agencies in early February.

On January 3rd the roll-off box with soil cuttings from the Lower Aquifer investigation was shipped to the Onyx facility in Port Arthur, Texas for disposal.

Chemical Oxidation Treatment

MWH has completed a letter report summarizing the post-application sampling and recommends a second full-scale application. The proposed second full-scale application will include the same area as the first full-scale application and proposes additional injection points to incorporate the area under Colfax Ave. MWH has been in contact with the town of Griffith's Department of Public Works to identify what will be required with injecting into the road. The Griffith Public Works Director indicated that the first and primary requirement is to develop and submit a temporary traffic control plan. The chemical oxidation application is scheduled to begin in mid-March and go through the middle of April. Weather will be an issue that may affect the chemical oxidation schedule. Post-application sampling of the second round of chemical oxidation injection is anticipated to occur four weeks following completion.

The Chem-Ox Phase 1 Application Monitoring report is scheduled to be submitted to the Agencies within the next two weeks.

MWH is preparing a proposal for follow up soil-vapor sampling of the residential property at the corner of Colfax Ave. and Reder Rd. Radon mitigation information has been supplied to the resident. The ACS PRP group is funding the installation of the active radon mitigation system. The ACS PRP group will also be paying the monthly rent for the subject residence occupant during March for the inconvenience associated with the chemical oxidation application.

Groundwater and Residential Well Sampling

MWH measured the fourth quarter water levels of the PSVP-specified monitoring wells on December 21, 2004.

MWH resampled residential well PW-A (1007 Reder Rd.) on January 7th after trace amounts of DD¹ were detected in the resident's September 2004 sample results. MWH expects to receive the laboratory results from the sample in late January.

MWH has an upcoming groundwater sampling event scheduled for March 2005. The sampling may overlap with the chemical oxidation work also scheduled for March. MWH will provide a more detailed schedule of field activities in the coming weeks.

Miscellaneous

MWH and the resident had identified which blowers are causing the unwanted noise heard from several residences located west of the GWTP. MWH is currently evaluating noise abatement alternatives that can be installed before spring.

Future ACS site meetings are tentatively scheduled for the first week of each month, with additional meetings held on an as-need basis. MWH will prepare a summary sheet of site information with supplemental graphs that will be distributed approximately one week before the meetings. A draft of the summary sheet will be provided at the next meeting scheduled for Friday, February 4th.

Work completed during the past year at ACS has contributed to an impressive health and safety record for the site. 2,770 days have gone without lost time and 570 days have passed without an OSHA reportable incident.

Look Ahead Schedule

January 14, 2005 through February 4, 2005	<ul style="list-style-type: none"> • Operate and maintain the GWTP/BWES/PGCS (on-going) • Operate and maintain the ISVE (on-going) • Complete the concrete pours into the base of yellow fence posts (Week of January 17th) • Submit response to Comments of the ACS SBPA ISVE System Evaluation Memo, via email (January 2005) • Submit CCR for the SBPA Final Cover (January 2005) • Submit Chem-Ox Phase 1 Application Monitoring Report (January 2005) • Submit Lower Aquifer Investigation Report (February 2005)
Health and Safety Items to Monitor	<ul style="list-style-type: none"> • Routine daily tailgate health and safety meetings for all work activities • Continued air monitoring in GWTP • Monitor areas for icy conditions and apply salt where necessary • Monitor weather conditions in advance of work scheduled outdoors so that workers can dress appropriately

Next Construction Meeting – Friday, February 4, 2005, 10 AM.

ALC/LAA/PJV

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Weekly Oversight Summary Report No. 203
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of January 17, 2005

BVSPC O/S Dates: Cancelled because of limited site activities.

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	1	Respondent's General Contractor
Austgen	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza shut down the Still Bottoms Pond Area air sparge system because odors were detected in the American Chemical Service break room.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm. MWH reported that water was pumped to the GWTP from all available sources.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors at 2,000 cubic feet per minute (cfm) back to thermox 2 with minimal dilution air (valve is one stop from being fully closed). MWH reported that it was now pulling vapors from 14¹ ONCA SBPA ISVE wells, although significant flow was observed in only eight of these activated wells. This system continues to operate at 1,000 cfm (with zero ambient air), pumping vapors back to thermox 1.

MWH reported that on January 20, ACS employees reported odors in their break room located on the ONCA SBPA cap. MWH reported that it immediately shut down the ONCA air sparge system and used

¹Previous reports had incorrectly identified that vapors were being pulled from 12 SBPA ISVE wells. Actually, vapors have been pulled from 14 SBPA ISVE wells for a number of months.

a photoionization detector (PID) to investigate odors in the break room; no VOCs were detected. ACS reported that the odors subsided shortly after deactivation of the air sparge system. MWH reported that it did not reactivate the air sparge system in order to assess conditions in the break room.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to assess odors in the ACS break room.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.
- MWH to complete fencing of the SBPA final cover.
- MWH to collect additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.

Signature: Larry Campbell

Date: January 25, 2005

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Weekly Oversight Summary Report No. 204
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of January 24, 2005

BVSPC O/S Dates: Cancelled because of limited site activities.

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	1	Respondent's General Contractor
Austgen	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza removed the failed gearbox that rotates the rake in the biotank clarifier and shipped it to the manufacture for repair.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm. MWH reported that water was pumped to the GWTP from all available sources.

MWH reported that it had removed the failed gearbox that rotates the rake in the biotank clarifier and shipped it to the manufacturer for repair. The GWTP continues to operate without the clarifier rake rotating.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors at 1,200 cubic feet per minute (cfm) back to thermox 2 with minimal dilution air (valve is one stop from being fully closed). MWH reported that it was now pulling vapors from 22 ONCA SBPA ISVE wells, including 8 new wells activated on January 21. Limited to no flow has been observed in 6 of the original 14 activated wells. This system operated at approximately 1,140 cfm (with zero ambient air) during January, pumping vapors back to thermox 1.

MWH had previously reported that on January 20 ACS employees reported odors in their break room located on the ONCA SBPA cap. MWH had immediately shut down the ONCA air sparge system on January 20. ACS reported that the odors subsided shortly after deactivation of the air sparge system and were not present on January 25. MWH reported that it had restarted the air sparge system on January 25 using only three of the five ONCA SBPA air sparge points AS3, AS4, and AS6, located at distance from the break room. MWH and ACS will monitor the break room to check on the redevelopment of odors.

MWH reported that on January 28, the SBPA ISVE system was shut down for maintenance and that cracks were observed in the stainless steel housing on the SBPA blower. The cracks were welded, the housing reinstalled, and the blower restarted on January 28.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to monitor odors in the ACS break room.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.
- MWH to complete fencing of the SBPA final cover.
- MWH to collect additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.

Signature: Larry Campbell

Date: February 1, 2005

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Weekly Oversight Summary Report No. 205
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of January 31, 2005

BVSPC O/S Dates: February 4, 2005 (Mr. Campbell)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	1	Respondent's General Contractor
US Environmental Protection Agency	1	Federal Regulatory Agency
Black & Veatch Special Projects Corp	1	USEPA Oversight Contractor
Austgen	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza conducted an operation, maintenance, and monitoring meeting at its Chicago office on February 4, 2005.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm. MWH reported that water was pumped to the GWTP from all available sources.

MWH reported that the failed gearbox that rotates the rake in the biotank clarifier was still being repaired by the manufacturer; MWH anticipates receipt of the gearbox next week and will install promptly. The GWTP continues to operate without the clarifier rake rotating.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors at 1,200 cubic feet per minute (cfm) back to thermox 2 with minimal dilution air (valve is one stop from being fully closed). MWH reported that it was now pulling vapors from 22

ONCA SBPA ISVE wells, including 8 new wells activated on January 21. Limited to no flow has been observed in 6 of the original 14 activated wells. This system operated at approximately 1,140 cfm (with zero ambient air) during January, pumping vapors back to thermox 1.

MWH had previously reported that odors had been reported in the ACS break room located on the ONCA SBPA cap. MWH had restarted the air sparge system on January 25 using only three of the five ONCA SBPA air sparge points AS3, AS4, and AS6, located at distance from the break room. MWH and ACS will monitor the break room to check on the redevelopment of odors. MWH believes the odors may be migrating from beneath the SBPA final cover through the insulation between the break room foundation wall and the surrounding soil in the SBPA.

MWH reported that it is evaluating methods to baffle or otherwise minimize noise coming from the air compressors at the GWTP, in response to complaints from nearby residents.

MWH reported that it has received approval from the PRPs to extend the lower aquifer investigation northward to the property line and would submit a proposal for this work to the Agencies in March.

MWH reported that it had contacted a traffic safety company to assist in closure of lanes during chemical oxidation injections beneath Colfax Avenue in March.

MWH reported that it had received the results of the resampled residential well PW-A, where trace levels of DDT had been found in the September 2004 sampling. The January 2005 results were non-detect for DDT.

MWH reported that it has developed a plan to upgrade the SBPA ISVE system and provided a summary of the conceptual design of the proposed upgrades (attached).

MWH reported that it would revise the ACS Health and Safety Plan to focus on operation and maintenance activities rather than construction activities.

MWH conducted an operation, maintenance, and monitoring (OM&M) meeting at its Chicago office on February 4, 2005. Black & Veatch Special Projects Corp. (BVSPC) and USEPA attended this meeting.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to monitor odors in the ACS break room.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.
- MWH to complete fencing of the SBPA final cover.

- MWH to collect additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- MWH to conduct second full-scale chemical oxidation injection application in March.
- MWH to conduct first-quarter groundwater sampling event in March.

Signature: Larry Campbell

Date: February 10, 2005

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR FEBRUARY 4, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Friday, February 4, 2005

MEETING TIME: 10:00 AM

MEETING LOCATION: MWH Chicago office

ATTENDEES: Kevin Adler – U.S. EPA
Larry Campbell – BVSPC
Rob Adams – MWH
Amy Clore – MWH
Chris Daly – MWH
Todd Lewis – MWH
Matthew Mesarch – MWH
Lee Orosz – MWH
Chad Smith – MWH (via telephone)
Peter Vagt – MWH

TOPICS

Health and Safety Summary

On January 20th, ACS plant employees reported odors in the break-room located on the north side of the SBPA area. MWH immediately shut down the SBPA air sparge system and the odors subsided. MWH took a photo-ionization detection (PID) reading of the volatile organic compounds (VOCs) in the break-room and no VOC readings were identified. The air sparge system was brought back online January 25th without air sparge points AS-1 and AS-2, which are located close to the break-room. These air sparge points will remain offline while MWH confirms the cause of the odor and implements a means to operate the air sparge points without directing vapors into the break-room, if the investigation indicates that the air sparge points are causing the odors. MWH may also monitor the background VOC concentrations in the break-room with a PID instrument. There have been no other health and safety issues since the last meeting on January 13th.

Groundwater Treatment Plant (GWTP) Status

The GWTP is presently operating at approximately 27 gallons per minute (gpm). There has been no downtime of the GWTP since the last meeting on January 13th.

During the week of January 17th the gearbox for the biotank clarifier failed. MWH removed the unit and sent it to the manufacturer for service. The repaired gearbox is expected to be returned to the GWTP the week of February 7th and it will then be re-installed in the system.

Off-Site Area/SBPA ISVE Systems

Thermal Oxidizer 1 (Therm-Ox 1) is currently treating vapors from the Still Bottoms Pond Area (SBPA) ISVE system. The SBPA ISVE system was operated with 14 ISVE wells until January

21, 2005. On January 21st, an additional eight ISVE wells were brought on line. This brought the total number of SBPA ISVE wells being operated to 22 with a vapor collection flow rate of approximately 1,140 cubic feet per minute (CFM) throughout January. On January 27th the SBPA ISVE system was shutdown for maintenance. The system was restarted the morning of the 28th.

Thermal Oxidizer 2 (Therm-Ox 2) is currently treating vapors from the Off-Site Area and aeration tank T-102. The vapors from T-102 are the resulting effluent from the aeration process in the tank. The off-gas is then treated by the Therm-Ox unit. The Off-Site ISVE system continued to be operated with the same 28 ISVE wells and a vapor collection flow rate of approximately 1,200 cubic feet per minute (CFM) throughout January. All three air sparge points were operated continuously in the Off-Site Area.

On January 21st MWH submitted the Response to Comments (RTCs) for the SBPA ISVE System Evaluation memo and the final copy of the final memo to the Agencies.

On January 31st MWH submitted the ISVE Systems O&M Manual to the Agencies.

SBPA Final Cover

Work is approximately halfway complete on filling in the base plates for the Still Bottoms Pond Area (SBPA) fence posts. The remaining fence posts will be filled when ambient temperatures increase to above freezing so that the concrete can set. Once fill is completed the fence posts will be set up in the SBPA to provide protection for the ISVE stick-up wells.

MWH submitted the draft SBPA Final Cover Construction Completion Report to the Agencies on January 27th.

Lower Aquifer Investigation

MWH met with the ACS Technical Committee on February 3rd where conceptual approval was given for increasing the funding to further investigate the extent of the lower aquifer plume to the northern property line. MWH will finalize a proposal and include it as part of the Lower Aquifer Investigation report, which is scheduled to be submitted in early March.

Chemical Oxidation Treatment

MWH has completed a letter report summarizing the post-application sampling and recommendations for a second full-scale application and will submit it to the Agencies on February 7th. The proposed second full-scale application will include the same area as the first full-scale application and also additional injection points under Colfax Ave. MWH has contacted NES Traffic Safety, of West Lafayette, Indiana as a potential subcontractor to manage the traffic control at times that work will be conducted in the Colfax Avenue right-of-way. MWH is currently conducting a pre-qualification survey of the company to check the history and verify the company's safety record.

The second full-scale chemical oxidation application is scheduled to begin in mid-March and potentially go to the middle of April. Weather conditions have the potential to affect the start date and the completion schedule. Post-application sampling of the second round of chemical oxidation injection will be scheduled four weeks after completion of the application.

On February 7th MWH will submit a proposal for additional soil-vapor sampling of the residential property at the corner of Colfax Ave. and Reder Rd. The property owner has information to proceed with installing a Radon-type mitigation system in the basement of the rental house. MWH will contact the owner during the week of February 7th to follow up with the owner's plans. MWH would like to have the new system in place before the Chem Ox work begins in March.

Groundwater and Residential Well Sampling

MWH received the laboratory results of the residential re-sample of well PW-A (1007 Reder Rd.) The well was re-sampled to determine if the trace levels of DDT in the original sample were real or the result of some other factor. DDT was not detected in the re-sampling, indicating that the original results were not representative of the private water supply. The laboratory report is currently being validated and will be reported when the data validation is finished.

MWH has scheduled the first quarter groundwater sampling event for March 2005. The sampling may overlap with the chemical oxidation work which is also scheduled for March. MWH will provide a more detailed schedule of field activities in the coming weeks.

SBPA ISVE System Enhancement Design

MWH has developed a plan to upgrade the SBPA ISVE system. The attached document, *Conceptual Design SBPA ISVE System Upgrades*, summarizes the modifications that MWH is proposing to upgrade the SBPA ISVE system.

Miscellaneous

Since the basic activities during the site will be changing as the ACS project transitions from a construction site to long term operation, maintenance, and monitoring (OM&M), MWH will update the Health and Safety Plan (HASP) to provide a new field manual for site safety. The new plan will be task-focused with detailed procedures for the routine operations that will be performed at the site during the OM&M phase. MWH plans to have the updated HASP completed by March.

During the past five years, MWH has hosted an on-Site construction meeting on a weekly or bi-weekly basis. Now that the project is moving into the OM&M stage, MWH is proposing to re-format the regular meeting into a monthly forum to review data from the site and evaluate the performance of the remedial systems. MWH has developed a draft Remedial Progress Report to provide a monthly documentation of the GWTP and ISVE system performance. The information will include the well identification numbers and the total number of wells operating. It will provide a running account of product removal and vapor collection, and provide graphs to show the trends of the remedial action. An update of the report would be distributed to the Agencies approximately one week before each scheduled OM&M meeting.

Several residents had informed the Agencies of a low but steady whine or hum coming from the ACS plant. They requested efforts be made to eliminate the sound. MWH has contacted the residents and now is investigating ways to reduce the noise by installing an acoustic shed over the blowers. MWH plans to have the noise abatement completed before spring.

Look Ahead Schedule

February 5, 2005 through March 3, 2005	<ul style="list-style-type: none">• Operate and maintain the GWTP/BWES/PGCS (on-going)• Operate and maintain the ISVE (on-going)• Complete the concrete pours into the base of yellow fence posts• Develop Final Design for SBPA ISVE System Upgrades (February 2005)• Submit Third Quarter Active Treatment Systems Report (February 2005)• Submit Lower Aquifer Investigation Report (March 2005)• Complete revisions to the Health and Safety Plan (March 2005)
Health and Safety Items to Monitor	<ul style="list-style-type: none">• Routine daily tailgate health and safety meetings for all work activities• Continued air monitoring in GWTP• Monitor areas for icy conditions and apply salt where necessary• Monitor weather conditions in advance of work scheduled outdoors so that workers can dress appropriately

Next Construction Meeting – Friday, March 4, 2005, 10 a.m. at MWH (19th floor, 175 West Jackson, Chicago, IL)

ALC/TV/RAA

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**CONCEPTUAL DESIGN
SBPA ISVE SYSTEM UPGRADES
ACS NPL SITE - GRIFFITH, INDIANA**

The following is a summary of the concepts that MWH is considering for the upgrades to the SBPA ISVE System. The design is based on data gathered while evaluating initial operation of the system. This evaluation was summarized in the SBPA ISVE System Evaluation Memorandum (final version dated January 21, 2005).

Air Injection Wells

Ten in-situ soil vapor extraction (ISVE) and ten dual-phase extraction (DPE) wells were not consistently yielding vapors during the evaluation due to soil formation impermeability. These wells are candidates for conversion to air injection wells until such a time that vapor may be extracted from the surrounding soils. The attached figure identifies the wells that are being considered for modification to allow for air injection.

Preliminary Design Criteria:

- The air injection wells will be brought on line in phases to allow for adequate evaluation of their operation. Operation of the injection system is anticipated to be cycled between subsets of injection wells.
- In DPE wells that are converted to air injection wells, the pumps will remain in the well to all the DPE wells to continue to be operated for liquid extraction.
- The wells will remain connected to the vapor extraction system and periodically tested for soil vapor removal capacity.

Installation of Air Injection

The existing air sparge blower does not have sufficient capacity to inject air for the new air injection wells. A new air source would be necessary.

Preliminary Design Criteria:

- Estimated capacity – up to 100 cfm
- Injection pressures up to 5 PSI
- The equipment does not need to be rated for Class I, Div 2 (Hazardous atmosphere)
- Schedule 80 PVC and/or HDPE pipe to be installed from new air source to ISVE header located in Building 1.

Modification of Header System

The existing header system will be modified to connect the appropriate wells to the air source.

Preliminary Design Criteria:

- The modified header system should allow the operator to alternate between injection and extraction modes easily (either with a valve or minor piping adjustment).
- The materials and construction of the existing piping will need to be evaluated to ensure that it is capable of being operated under pressure.

- New headers would need to include pressure gauges and magnehelic gauge/pitot tubes for monitoring purposes.
- The existing pitot tube ports on the well risers (to which the Magnehelic gauges are attached) can still be used to measure flow.
- On the individual well risers, pressure gauges or composite (pressure and vacuum) gauges would need to be installed to replace the existing vacuum gauges.
- Any piping modifications will be above ground so that the cover system does not need to be disturbed.

Product Recovery Wells

As discussed in the System Evaluation Memorandum, five wells (SVE-52, SVE-53, SVE-62, SVE-72, and SVE-88) have sufficient product/liquid levels and recovery rates to justify designating these points as "product recovery wells". The attached figure shows the product recovery locations

Preliminary Design Criteria:

- Product recovery will initially occur monthly at each of the five wells
- Procedures will not change from previous events (details will be included with the design document).
- Water/product levels will be collected prior to pumping to monitor recovery.
- The water/product levels and amount of product recovered will be utilized to adjust pumping frequency, if needed. For example, if the amount of recovered product increased from previous recovery events, then the pumping frequency may be increased for that well or the pumping frequency would be decreased if there is a decrease in recovered product.
- The wells will remain connected to the vapor extraction system and periodically tested for soil vapor removal capacity.

Milestones

February 4, 2005	Design Meeting with Agencies
February 25, 2005	Develop Final Design
March 17, 2005	Internal Review completed; submit Final Design to Agencies
April 29, 2005	Bid Process Completed
June 6 to June 24, 2005	Construction
September 2, 2005	Submit construction completion documentation to Agencies

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Monthly Oversight Report 49
ACS NPL Site
Griffith, Indiana
January 1 - February 4, 2005

Monthly Oversight Report 49
ACS NPL Site
Griffith, Indiana
January 1 - February 4, 2005

(116)

13 JAN 2005

0930

Arrive on site

Overcast, light rain, 33°F

Personnel on site

Lee Orosz MWH

Tim Kirkland Austgen

Larry Campbell BUSPC

0950

Photo 71-10^{11 am} Looking SE

in GWTP at supplies + equip

to add concrete to bases of

fence standoffs (in background).

0955

Photo 71-11^{12 pm} Looking N

showing that lower aquifer soil

cutting roll off box has been

removed.

1000

O&M Mtg - See pg 117-120.

See Note 9

1125

Photo 71-12^{13 pm} Looking W

at wetlands pond at

highest level ever because of

snow melt of 1.6" rain

last evening.

1127

Photo 71-13^{14 pm} Looking SW

Showing water draining from

SBPA cover into storm drains

J M Campbell

(117)

1000 Construction Mtg Minutes

- Personnel Attending

- Lee Orosz (MWH), Larry Campbell
(BUSPC) at site- Pete Vast, Todd Lewis, Rob Adams,
Chris Daly, Amy Chlore, Chad Smith
MWH - Chicago office - via Phone

- Kevin Adler (EPA) - via Phone

H&S - No issues since last mtg. Mostly

Maintenance Activities at site

GWTP - Operating @ 25 gpm No problemsNO Shutdown. Influent coming from
all available sources at siteThermox - Thermox 1 shutdown yesterday

w/ no warning & no indications of

cause. Restarted OK + running OK.

Pulling 1000 cfm from SBPA without
any dilution air.

Thermox 2 working well pulling

2000 cfm from 28 OFCA ISUE wells w/

minimal dilution air (switch @ 1 knot
before totally off).Air Sparge Systems operating in both
ONCA & OFCA.

J M Campbell

(118)

ISVE ORCA pulling 2000 cfm from 28 wells. ONCA SBPA pulling 1000 cfm from ~~to~~ ^{from} 14 ISVE wells. MWIT completing responses to Tech Memo regarding the SBPA-ISVE System Evaluation.

- MWIT inquired about type of documentation of/far future changes in ISVE system.

Will disc. at next Const. Mtg.

SBPA Final Cover - MWIT has placed concrete in SOB of fence stanchions. Will complete remainder soon if temp ~~is~~ ^{is} not freezing.

MWIT expects to submit final ~~for~~ ^{for} SBPA cover cert in Jan 05.

Chemox Injections

- MWIT is preparing letter report summarizing the recent Chemox results & providing ~~for~~ ^{for} recommendations for future work. in March 2005 including injections beneath ~~underneath~~ Colfax Ave. MWIT has contacted City of Griffith re injection ~~beneath~~ ^{from} beneath Colfax.
- MWIT is preparing 'proposal' for add'l soil vapor sampling at

McCampbell

(119)

home a 1002 Radar Rd. Owner will install an active radon detector in basement of home - to be ~~paid~~ ^{paid} by PRP group. Who also pd rent for Sept & March because of ~~stop~~ ^{inconvenience} during Chemox injections.

- MWIT expects to issue report summarizing results of first Chemox injections in Jan.

- Next injections in March - w/ followup sampling in mid May.

- Third injections in July/August

GW & Bas Well Sampling - 4th QTR PSVP

Water level measurements done on Dec 21.

Next round GW sampling in March

MWIT resampled Bas Well PW-A because

DDT had been detected earlier

Lower Aquifer Invest. - MWIT has received

validated results and is preparing a report summarizing ~~the~~ results & recommendations for add'l investigation. Will

include provision for drilling from "soft area" surface condition. Probably

will defer invest. till April ~~long~~ to allow ~~the~~ water level to lower as far as possible

Jim Campbell

(120)

MISC.

- Future Meeting schedule: probably 1 mtg/month during first week of month - more frequent when work going on at site
- Punch list completion status: must document Close Out inspection checklist in better report
- MWH has worked at ACS site for 2770 days since last time accident, and 527 days since last reportable accident.

Look Ahead

- Odm GWTP, ISUE
- Complete concrete in SUE wells
- Pump product from SBPA wells

Next Mtg - Feb 4 (Fri) 10 AM
at MWH Chicago office 19th Floor

1030 Mtg over
~~1130~~ left site for day
1130

M Campbell

(121)

4 Feb 05

1000 Operation, Maintenance & Monitoring Meeting Notes

@ MWH Chicago office

Personnel

Pete Vagt, Lee Orosz, Rob Adams,
Todd Lewis, Chris Daly, Matt Mesarch, Amy Clove - MWH
Clad Smith - MWH (telephone)
Kevin Adler EPA
Larry Campbell BUSPC

HAS - No issues since last mtg

- Bearbox on biotank clarifier was difficult to remove to ground level.
- On Jan 20, ACS personnel reported odors in the SBPA breakroom. MWH immediately shut down SBPA air sparge system & used PID to monitor for VOCs - None detected. Air sparge system resumed ops Jan 25, using only AIs 3, 4 & 6 - at distance from break room. MWH believes vapor may be coming from below SBPA cap thru foundation insulation of bldg. MWH + ACS will monitor conditions

M Campbell

- MWIT reported more than 2600 day w/o lost-time accident at AES
- GWTP - operating at 27 gpm. No shut down even with Clarifier rake problem. MWIT anticipated gearbox repair & reinstallation next week.
- ISVE - OFCA still 28 wells operating has not gone down since last mty
- ONCA SBPA - down for maintenance & repaired header. Pulling from 22 wells - added 8 more on Jan 21.
- Thermax 1 & 2 both working well

Community

- Ron Anstgen - owner of 1002 Reder Rd. residence is evaluating radon instrument to install in basement
- Todd is evaluating baffles to minimize noise from Air Compressors.

Lower Aquifer Investigation

MWIT preparing report of activities. PRPs agreed to extend LA invest. to N. property line & to run pump test

Chemox - completed documenting results of first application - will send to Agencies today. Next

Jim Campbell

will include injections under Caltex Ave. Have contacted City of Griffith about closing lanes of roadway. Will contact traffic control firms to get pricing + son.

- MWIT to video roadway prior to Chemox injections

Residential Wells - Resampled PW-A @ 1007 Reder Rd because of DDT in Sept 04 sample. Results of Jan 7, 2005 sample was NON DETECT for DDT.

- Next sampling in late March

H&SP - MWIT will revise the ACS H&SP to reflect O&M activities - Not Construction - probably in March

SBPA ISVE system Design enhancements

MWIT presented summary of planned upgrades to system

Look Ahead

GW sampling March
Chemox #2 March-April
SBPA fencing
ISVE Monitoring 2/11

H&S Lookahead

Weather related issues -

Jim Campbell

reinstall gearbox

(124)

- Snow, Ice, Freezing
- Lifting gearbox onto Clarifier
- Chemox road closing issues

Next Mtg

March 4 @ 10 AM @
MWH Chicago office

1130 Mtg over

Tom Campbell

(125)



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 71 Photo #11

Date: 1-10-05 Time: 0950

Photographer: Larry Campbell

Description: Photo facing southeast in GWTP showing supplies and equipment to mix concrete as weight for SBPA fence stanchions (yellow, in background).



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 71 Photo #12

Date: 1-10-05 Time: 0955

Photographer: Larry Campbell

Description: Photo facing north showing that the lower aquifer soil cutting roll-off box has been removed.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 71 Photo #13

Date: 1-10-05 Time: 1125

Photographer: Larry Campbell

Description: Photo facing west showing wetland pond at highest water level ever because of snow melt and 1.6" rain last night.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 71 Photo #14

Date: 1-10-05 Time: 1127

Photographer: Larry Campbell

Description: Photo facing southwest showing water draining from SBPA cover into a storm drain.